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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/797,360      | 03/10/2004  | Marc Alan Herwald    | 2003-0837.02        | 4342             |

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| EXAMINER |
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UHLENHAKE, JASON S

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| ART UNIT | PAPER NUMBER |
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2853

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                                |  |
|------------------------------|-------------------------------|--------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/797,360 | Applicant(s)<br>HERWALD ET AL. |  |
|                              | Examiner<br>Jason Uhlenhake   | Art Unit<br>2853               |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-46 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 13-18, 24 and 36-46 is/are rejected.
- 7) ☒ Claim(s) 2-12, 19-23 and 25-35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/10/2004</u> .   | 6) <input type="checkbox"/> Other: ____                                     |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 14, 18, 24, 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikeda et al (U.S. Pub. 2004/0155923).

#### ***Ikeda et al discloses:***

- ***regarding claims 1, 14, 18, and 24***, a belt holder (59) attached to said carrier drive belt; and an isolator (71) coupled between said belt holder (59) and said printhead carrier, said isolator (71) being configured to provide directionally dependent filtering of vibrations propagating to said printhead carrier (Figures 3 – 4; Paragraphs 0050, 0054)
- ***regarding claims 14, 37***, isolator having a center of mass, and a centerline of said belt holder being spaced from said center of mass of said isolator by a distance along a main scan direction of said printhead carrier (Figures 3 – 6)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (U.S. Pub. 2004/0155923) in view of Sasaki (U.S. Pub. 2001/0009434)

***Ikeda et al discloses the claimed invention except for the following:***

- ***regarding claims 13, and 36***, isolator being an asymmetrical isolator and said printhead carrier defining a receptacle for receiving said asymmetrical isolator, said printhead carrier having a latch for engaging a latch slot formed in said asymmetrical isolator to retain said asymmetrical isolator in said receptacle

Ikeda et al discloses the claimed invention except for an asymmetrical isolator. It would have been an obvious matter of design choice to make the isolator an asymmetrical shape, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

***Sasaki discloses:***

- ***regarding claims 13, and 36***, printhead carrier defining a receptacle (case, 20) for receiving isolator (damper, 21) , said printhead carrier having a latch (20G) for engaging a latch slot (11B) formed in said isolator (damper, 21) to retain isolator in said receptacle (case, 20) (Figure 2; Abstract; Paragraphs 0007, 0078), for the purpose of securing the isolator to the printhead.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of isolator being an isolator and said printhead carrier defining a receptacle for receiving said isolator, said printhead carrier having a latch for engaging a latch slot formed in said isolator to retain said isolator in said receptacle as taught by Sasaki into the device of Ikeda et al. The motivation for doing so would have been to secure the isolator to the printhead.

Claims 15, 16, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (U.S. Pub. 2004/0155923) in view of Kinoshita (JP 04-131267).

***Ikeda et al discloses the claimed invention except for the following:***

- ***regarding claims 15, and 38***, isolator being made from multiple materials having different stiffness properties
- ***regarding claims 16, and 39***, isolator being made from a single material having multiple stiffness properties

***Kinoshita discloses:***

- ***regarding claims 15, and 38***, isolator being made from multiple materials (rubber-based plastic) having different stiffness properties (Abstract), for the purpose of suppressing vibrations and improving print quality.
- ***regarding claims 16, and 39***, isolator being made from a single material (elastomer) having multiple stiffness properties (Abstract), for the purpose of suppressing vibrations and improving print quality.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of isolator being made from multiple materials having different stiffness properties; isolator being made from a single material having multiple stiffness properties as taught by Kinoshita into the device of Ikeda et al. The motivation for doing so would have been to suppress vibrations and improve print quality.

Claims 17, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (U.S. Pub. 2004/0155923) as modified by Kinoshita (JP 04-131267), as applied to claim 1 above, and further in view of Arai et al (U.S. Pat. 6,863,390).

***Ikeda et al as modified by Kinoshita discloses the claimed invention except for the following:***

- ***regarding claims 17, and 40***, isolator being made from an elastomeric material having at least one of a different amount of hardener, additives, air bubbles and holes located in a portion of said isolator.

***Arai et al discloses:***

- ***regarding claims 17, and 40***, isolator (damping film) being made from an elastomeric material having at least one of a different amount of hardener, additives, air bubbles and holes located in a portion of said isolator (Column 2, Lines 60 – 65), for the purpose of having a damper mechanism capable of reliably suppressing the fluctuation of ink pressure occurring due to the movement of the head unit.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of isolator being made from an elastomeric material having at least one of a different amount of hardener, additives, air bubbles and holes located in a portion of said isolator as taught by Arai et al into the device of Ikeda et al as modified by Kinoshita. The motivation for doing so would have been to have a damper mechanism capable of reliably suppressing the fluctuation of ink pressure occurring due to the movement of the head unit.

Claims 41, 42, 43, 45, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (U.S. Pub. 2003/0048325) in view of Lidke et al (U.S. Pat. 5,790,150).

***Ikeda discloses:***

- ***regarding claim 41***, a carrier drive belt (83); a belt holder (59) attached to said carrier drive belt; an isolator (61) couple to said belt holder (Figures 3 – 5; Paragraph 0043)
- printhead carrier having a receptacle configured for mounting said isolator (61), said receptacle having a first thrust wall and a second thrust wall spaced apart from said first thrust wall, said isolator (61) being retained between and in engagement with said first thrust wall and said second thrust wall, wherein a structural geometry of said second thrust wall is different than a structural geometry of said first thrust wall to adjust an amount of dampening to provide dependent filtering of vibrations propagating to said printhead carrier (Figures 3 – 5; Abstract, Paragraphs 0013, 0043, 0048)

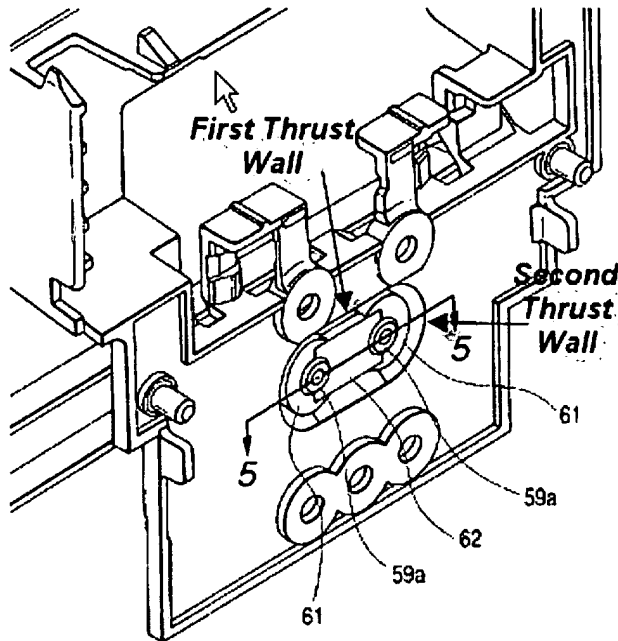


Figure 4: First and second thrust walls shown

- **regarding claim 42**, a direction toward a carrier motor (80) and a direction away from said carrier motor, second thrust wall being positioned closer to said carrier motor than first thrust wall (Figure 1, 4)
- **regarding claim 43**, second thrust wall being shorter in length than said first thrust wall (Figure 4)
- **regarding claim 45**, Ikeda discloses the claimed invention except for an symmetrical isolator. It would have been an obvious matter of design choice to make the isolator be of symmetrical shape, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).



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- **regarding claim 46**, Ikeda discloses the claimed invention except for an asymmetrical isolator. It would have been an obvious matter of design choice to make the isolator an asymmetrical shape, since such a modification would have involved a mere change in the shape of a component. A change in shape is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

***Ikeda does not disclose expressly the following:***

- **regarding claims 41 and 42**, a bi-directional main scan direction of the printhead

***Lidke et al discloses:***

- **regarding claims 41 and 42**, a bi-directional main scan direction of the printhead (Column 6, Lines 60 – 67; Column 7, Lines 1 – 8)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a bi-directional main scan direction of the printhead as taught by Lidke et al into the device of Ikeda. The motivation for doing so would have been to improve the speed of printing.

Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (U.S. Pub. 2003/0048325) in view of Sasaki (U.S. Pub. 2001/0009434).

***Ikeda discloses the claimed limitations except for the following:***

- **regarding claim 44**, second thrust wall being shorter in height than first thrust wall

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**Sasaki discloses:**

- **regarding claim 44**, second thrust wall being shorter in height than first thrust wall (Figures 5 – 6)

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of second thrust wall being shorter in height than first thrust wall as taught by Sasaki into the device of Ikeda. The motivation for doing so would have been to have a pressure damper that absorbs pressure variation in the printhead

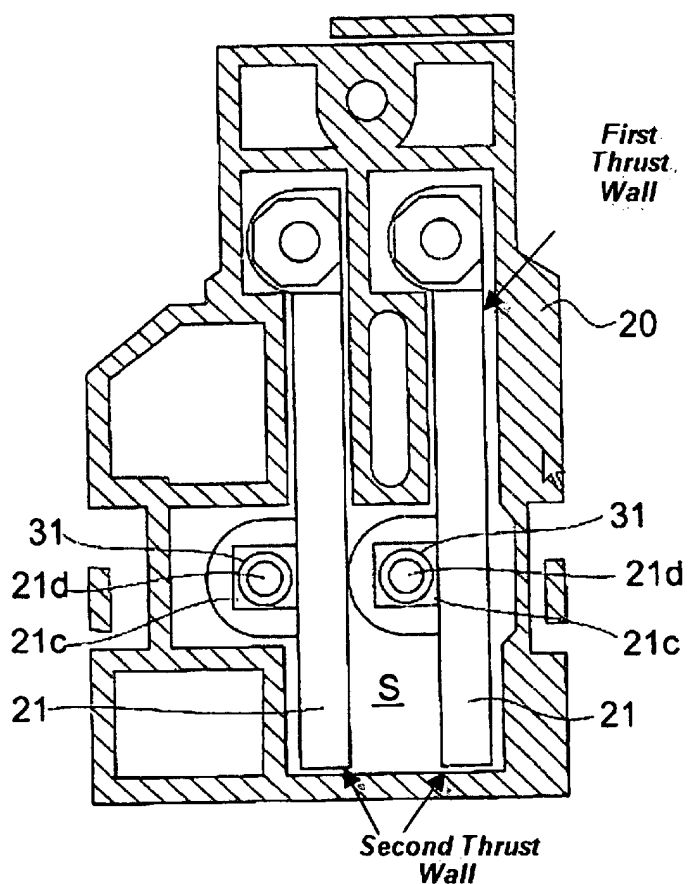


Figure 6: First and second thrust walls shown

***Allowable Subject Matter***

Claims 2 – 12, 19 – 23, and 25 – 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The primary reason for the indicating allowable subject matter of claims 2 – 12 is the inclusion of the limitation of an interface device of an isolator providing a first dampening of vibration when the printhead carrier is moved in a first direction and providing a second dampening of vibration different from first dampening of vibration when said printhead carrier is transported in a second direction opposite to said first direction. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indicating allowable subject matter of claims 19 - 23 is the inclusion of the method step of providing a first dampening of vibration when the printhead carrier is moved in a first direction and providing a second dampening of vibration different from first dampening of vibration when said printhead carrier is transported in a second direction opposite to said first direction. It is this step found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the indicating allowable subject matter claims 25 - 35 is the inclusion of the limitation of an imaging apparatus of an isolator providing a first

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dampening of vibration when the printhead carrier is moved in a first direction and providing a second dampening of vibration different from first dampening of vibration when said printhead carrier is transported in a second direction opposite to said first direction. It is this limitation found in each of the claims, as it is claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

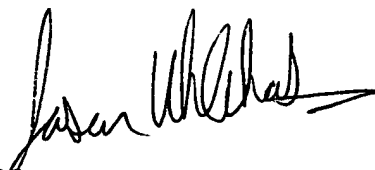
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU  
February 22, 2006



  
K. FEGGINS  
PRIMARY EXAMINER